

# MANUFACTURING EXTENSION PARTNERSHIP

## Success Stories from the Field

### Curb Appeal

Chicago Manufacturing Center

#### Sustainable Technology Equals New Sales for Curb Appeal

##### Client Profile:

Curb Appeal manufactures and distributes plastic composite lumber, outdoor furniture, highway sound barriers and car stops. All of its products are made from recycled materials. Founded in 2005, Curb Appeal is based in McHenry, Illinois and employs 4 people.

##### Situation:

Curb Appeal recently developed a proprietary technology that overcomes a major barrier to large-scale use of waste plastic in manufacturing. The economics of recycling have largely made it impractical to separate contaminated plastics from other recyclable plastics. As a result, tons of used plastic that could be recycled into new products goes to landfills instead. Curb Appeal's I-Rock extrusion technology not only makes it cost-effective to recycle mixed and contaminated plastics, but it also produces a composite material with the look, feel and performance of concrete. The new material, which works and cuts like wood, is especially well-suited to highway sound barriers and parking lot car stops. The company wanted to pursue the market opportunities for its I-Rock technology. To do so, the company needed to secure raw material from local sources, and demonstrate the advantages of its product to potential customers. Curb Appeal's composite has significant environmental benefits compared to concrete. For example, it takes 3,200-3,500 pounds of raw materials to produce one ton of finished concrete. Raw materials--cement, sand, and stone--require mining and usually long-distance hauling. The process is energy intensive, with most of the energy coming from coal-fired plants. By contrast, Curb Appeal's composite is made of 100 percent recycled material, and the production process involves low-energy cold extrusion and ambient curing.

In the summer of 2006, Curb Appeal heard about the Waste to Profit Network, a pilot project launched by the Chicago Manufacturing Center (CMC), a NIST MEP network affiliate, under the auspices of the City of Chicago Department of Environment, with additional funding support from the US EPA-Region V and the State of Illinois Department of Commerce and Economic Opportunity. The pilot project's goal was to demonstrate the value of by-product synergy as a key sustainability strategy. Using this approach, one company's waste or by-product becomes another company's raw material.

##### Solution:

Curb Appeal joined the Waste to Profit Innovation Network, and quickly found both potential suppliers and customers among its 27 charter members. Through the network, co-owner Mike Hill met with City of Chicago procurement officers, resulting in a contract with the city's Department of Fleet Management to provide car stops large enough to accommodate city trucks. The Chicago Department of Fleet Management also created its own closed-loop recycling process by sending its plastic waste to Curb Appeal, where it becomes raw material for the car stops the city is buying from the company. Another network member is using Curb Appeal's sound barriers--being marketed under the SmartTie brand--to mitigate noise on its factory floor.

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#### **Results:**

- \* Increased sales by \$300,000.
- \* Achieved environmental impacts:
  - diverted 250 tons of plastic from waste stream.
  - recycled 300 tons of plastic instead of raw materials for cement.
  - reduced CO2 emissions by 418 tons.
  - produced 439,299 kilowatts in energy savings.
- \* Achieved a more competitive and profitable position.

#### **Testimonial:**

"Our sales will triple this year, thanks to the Waste to Profit Network. Without the network we would be nowhere near where we are today. We won a contract with the U. S. Army based on the work we are doing with the City of Chicago. We are figuring out how to be competitive in the world of government contracts."

Mike Hill, Co-owner